

What is Claimed:

1. An integrated circuit switching hub, comprising:
 - a plurality of input/output ports;
 - a bus communicatively connected to each of said plurality of input/output ports;
 - a plurality of data switches that switch data from said plurality of input/output ports onto said bus; and
 - an arbitrator connected to each of said plurality of data switches that controls said data switches to switch data from any one of said input/output ports to any other of the input/output ports in accordance with a predetermined selection scheme.
2. An integrated circuit switching hub, comprising:
 - a plurality of input/output ports, each of said plurality of input/output ports comprising a media adapter controller that attaches to data layers of a protocol being transmitted and a data buffer;
 - a bus communicatively connected to each of said plurality of input/output ports;
 - a plurality of data switches that switch data from said plurality of input/output ports onto said bus; and
 - an arbitrator connected to each of said plurality of data switches that controls said data switches to switch data from any one of said input/output ports to any other of the input/output ports in accordance with a predetermined selection scheme.
3. The integrated circuit switching hub as recited in claim 2, wherein said arbitrator is connected to said media adapter controller, and wherein when data is received by said media adapter controller, said arbitrator instructs said data switches to move the data onto said bus.
4. The integrated circuit switching hub as recited in claim 2, wherein said predetermined selection scheme is user configurable.

5. The integrated circuit switching hub as recited in claim 1, further comprising at least one read amplifier connected to said input/output ports, wherein said read amplifier is enabled to receive data present on said bus.
6. The integrated circuit switching hub as recited in claim 5, wherein said arbitrator enables one of said input/output ports to receive data read by said read amplifier.
7. The integrated circuit switching hub as recited in claim 5, wherein said read amplifier is shared by said plurality of input/output ports.
8. An integrated circuit switching hub, comprising:
 - a plurality of input/output ports;
 - a bus communicatively connected to each of said plurality of input/output ports;
 - a plurality of data switches that switch data from said plurality of input/output ports onto said bus; and
 - an arbitrator connected to each of said plurality of data switches that controls said data switches to switch data from any one of said input/output ports to any other of the input/output ports in accordance with a predetermined selection scheme, wherein said integrated circuit switching hub is fabricated having multiple layers.
9. The integrated circuit switching hub as recited in claim 8, wherein said bus resides in a first layer, and said data switches reside in a second layer adjacent to said first layer.
10. The integrated circuit switching hub as recited in claim 8, wherein said bus resides in a first layer, and all other elements of said switching hub reside in layers adjacent to said first layer.
11. The integrated circuit switching hub as recited in claim 1, wherein said switching hub is incorporated into a single integrated circuit chip.